

Historical Use Analysis Subworking Group meeting notes and DNRC's Response/Plan

Notes from 6/29/2022 meeting of Deb, Brian, and Julie with further thoughts from Julie and Brian based on review of various DNRC policy and guidance documents.

Some of the main take-aways from our discussion were:

- 1) When applicants provide additional information about historical use, e.g., affidavits from people with knowledge of the system, the DNRC sometimes chooses not to take that information into account in the decision-making process. Our suggestion in this situation is that the staff member processing the application should be required to document why any part of the application was not considered.

Discussion: Instances discussed above are likely due to training issues or miscommunication between the Department and Applicant. In some cases, the Department may find that an applicant's affidavit fails to meet the level of substantial credible. The Department may determine an affidavit to not be relevant. The Department acknowledges that failing to communicate these findings is a problem.

Plan: The Department will develop better guidance on how to review affidavits for credibility and relevancy. The Department will also develop better guidance on how we communicate concerns with the Applicant(s).

The guidance will be added to the Change Manual to improve statewide consistency. Specific elements of the guidance will include:

- Who makes the determination if the Affidavit is substantial credible or relevant.
- What level of evidence is required for affidavits.
- When in the process the applicant is informed that an affidavit was not found credible or relevant.
- Where in the documentation the affidavit needs to be addressed.
- How the affidavit will be address in the Preliminary Determination.

- 2) Much of our conversation revolved around Municipal use and how Municipal water rights are treated in a change proceeding. In general, the DNRC's policy on Municipal water rights and historical use is fundamentally flawed. Attached is a copy of "Guidance for Municipal Purposes & Water Rights" dated 8/12/2014. This guidance is not consistent with 85-2-227 MCA and it is not consistent with numerous cases from various courts of law, e.g. *Bailey v. Tintinger*, *Curry v. PCCRC*, *Lockwood*, *City of Helena*, etc. This guidance leads to absurd results. Municipalities can only construct and operate the diversion and conveyance facilities. They have no control over the end users. Suggesting that a municipality account for all of the "sub-beneficial uses" presumes the ability to control those "sub-beneficial uses". This guidance needs to be wholly retracted and replaced.

Discussion: The Municipal Guidance memo was designed and implemented to give guidance on change applications on Municipal rights. It offers "Tips" for the Department and Applicant(s) when determining the historic use on municipal purpose Claims, Permits, and Reservations. The document never talks about how, when, if the Department should (or can) consider presumptions of municipal non-abandonment. The memo does not quote case law, so it is unclear how heavily it was considered in its drafting. At least two of the four referenced case law examples postdate the memo, so it is not unreasonable to surmise discrepancies likely exist. Although much of the guidance document is informative and worthwhile, the Department agrees that parts of the guidance appear to be nearly impossible for both the Applicant and/or the Department to implement.

Plan: The Department will Replace the existing guidance document with a new guidance document. The new guidance document will address:

- How to determine Historic Diverted Volume:
 - This section will leave open the option for the Applicant to provide information on "sub-beneficial uses" if they determine it supports the Historic Diverted Volume method discussed below.
 - Recognizing some municipalities have better records than other, it is important to leave open multiple methods for determining Historic Diverted Volume. This section will discuss multiple acceptable methods. Examples might include one or multiple of the following methods/approaches: treatment facility records, metered diversion records, historical populations records (either Equivalent Dwelling Unit or applicant provided sub-beneficial uses), back calculations based on system design specifications and operation, irrigation schedules for public areas, fill station sales records, or credible/relevant engineering reports.
- How to calculate the Historic Consumptive Volume
 - This section will leave open the option for the Applicant to provide information to support varying consumption rates for its "sub-beneficial uses" similar to how the 2014 memo discusses. The Department will not require this methodology.

- This section will discuss acceptable consumptive for city wide cases where the Applicant does not have or intend to use defined “sub-beneficial uses”.
- How to determine Historic Diverted Flow Rates:
 - As stated above, due to municipalities inability to control each “sub-beneficial uses”, the Department will not recognize this use as an acceptable method to support the Maximum Historic Diverted Flow Rate. Put another way, a municipalities Historic Diverted Flow Rate is not based end uses, but rather the methods below.
 - Recognizing some municipalities have better records than other and systems have changed and been updated over time, it is important to leave open multiple accepted standards. Examples might include one or multiple of the following methods/approaches: historical records such as pump make and models, back calculations based on system design specifications and operation, or engineering reports.
- How to determine Adverse Effect
 - This section will discuss acceptable plans for mitigate or responding to call given the unique challenges municipalities have with other regulatory constraints above and beyond water rights.
- How to determine Possessory Interest of the Place of Use.
 - The 2014 Memo guidance will be retained for this section.
- Portions of the Historical history/background will be retained.
 - The 2014 Memo has some important and still very relevant history, clarifications, and definitions. Some parts will be retained, other parts will be removed.
- Relevant Case Law will be added.
 - A section will be added discussing case law relevant to the change process.
- HB24 Marketing for Mitigation
 - This section will be retained and updated to explain how and when this process could be used.

- 3) There is a lot of variation office to office on how historical use is treated. Overall, it seems that there is a cultural issue within the Dept that the processor hasn't done their job if the amount of water estimated by the applicant isn't somehow cut back in the change process. Training also seems to be a big issue. Staff often ask questions that don't seem all that important or that are WAY too detailed. Focus needs to be on getting information that is critical for the decision-making process.

I will admit to having gone down a rabbit hole thinking and reading about the following terms:

- Historic consumptive use
- Historic on-farm efficiency
- Historic conveyance losses
 - Seepage loss
 - Vegetation Loss
 - Ditch evaporation
- Irrecoverable losses – I have read the paper on this and I still don't get how this isn't accounted for with other factors
- Evapotranspiration (is this the same as total crop requirement?)
- Total crop requirement (is this the same as ET?)
- Obtainable yield
 - In part, this term is described as follows: "Available literature suggests that alfalfa requires approximately 5-6 inches of water to produce one ton per acre of dried alfalfa hay and this response is linear."¹ Is the 5-6 inches referenced here
 - Diverted volume?
 - Consumed volume?
 - ET?
 - Total crop requirement?
 - Does it account for conveyance losses? Irrecoverable losses?
- County management factor
 - This is described by DNRC as "...an estimate of what percent of the obtainable yield producers are typically obtaining in the field at a particular area."¹ – this sounds like it should include some of the other factors mentioned above, such as irrecoverable losses.

Discussion: The Department is committed to improving our culture, guidance documents, and training methods for our staff. We are also committed to developing more transparent findings in our decision. Inconsistencies between offices is something we are aware of and something we have been striving to improve. The concerns above appear to focus around the Department's implementation and interpretation of how the "standard of substantial credible information" criteria is applied in 36.12.1601(6).

Plan: The Department has been and will continue to update processing manuals, developing standards practices documents, and work to improve statewide training opportunities for all staff. These trainings and meetings will include the concerns discussed here. For example, trainings on what substantial credible information is, when it applies, and how it is used in the decision-making process should help ease concerns above. The Department

¹ DNRC Consumptive Use Methodology updated 3/1/2010

will also continue to work on improving our documentation to add clarity and improved understanding for the public.

- 4) The current guidance on historical use is contradictory. For example, the April 15, 2013 memo from Tim Davis states (emphasis added);

“Evaporative Losses during Conveyance

Additional irrecoverable losses can also occur due to **direct evaporation and evapotranspiration during the transport of water between the source and the place of use**. These losses are most often realized associated with flood irrigation but can also occur with sprinkler operations that utilize ditches and pumping pits. Under most circumstances, **this component of loss is less than one percent of the total volume of water diverted (Roberts and Heffner 2012) and is therefore not considered in this calculation.**”²

In contrast, Millie Hefner’s memo dated Sept 13, 2012, specifically directs applicants to calculate “Seasonal Conveyance Loss” by adding “Seepage Loss + Vegetation Loss + Ditch Evaporation”³

So, are vegetation loss and ditch evaporation significant components of historical diverted volume or not?

I imagine there is more like this

The IWR program is no longer supported by NRCS. If DNRC is going to keep using it, you need to update the program and support it. Honestly though, I know there is literature out there that explains why the Blaney-Criddle method is not accurate and shouldn’t be used anymore. I assume that is at least part of the reason why the NRCS doesn’t support the IWR program anymore.

Discussion: There is an apparent inconsistency regarding conveyance loss methodologies in two memos. The 2013 Davis memo appears to have been written in response to an ARM update in 2012 that required the DNRC to calculate the historic diverted and consumed volumes on changes. That 2013 document says that the Department will consider evaporation losses during conveyance insignificant. The 2012 Heffner memo clarifies and gives specific guidance on the how to calculate conveyance losses including evaporation as required by 36.12.1902(10)(a). The Department will not be updating or supporting the NRCS program. If Applicants do not want to use the IWR figures from ARM 36.12.1902 on change applications, they are free complete a Historical water use addendum.

Plan: The Department will review and discuss the best plan to replace the 2013 memo in question. ARM 36.12.1902(10)(a) is clear that evapotranspiration (vegetation loss and ditch evaporation) from a ditch is a significant component.

² Tim Davis Memo dated April 15, 2013 “Assessment of new consumptive use and irrecoverable losses associated with change applications”

³ Mille Hefner Memo dated Sept 13, 2012 “Development of standardized methodologies to determine Historic Diverted Volume”

5) Additional comments from Brian on 7.22.22

With respect to municipal rights, the guidance needs to be totally reworked, clearly differentiate procedures for changes from new permits, and recognize that municipal water rights are fundamentally different from irrigation water rights. I would also encourage DNRC to consider codifying within the WUA its administrative law set out in the attached Order on Declaratory Judgment. Here, the DNRC states that municipalities may consume its water rights to extinction. Municipal wastewater effluent management is entering a new era under stringent nutrient water quality standards, which is going to force some communities that currently dispose of wastewater by discharge to streams to land disposal methods.

Some other policy changes to consider for municipal rights.

- Recognition of a service area as the place of use, thereby eliminating the requirement to change the POU each time the municipal water delivery system is expanded. (note: municipalities are loathe to proceed into a change to keep its POU up to date for fear of being limited to 1973 historical consumptive use as the 2014 municipal guidance requires. This consumptive limitation in the guidance directly contradicts DNRC's own administrative Order, indicating that the author of the guidance was either not aware that the Order existed or purposely chose to ignore it.)
- In a municipal change adverse affects analysis, if diverted flow does not increase then no adverse affect occurs thereby eliminating the onerous and completely unnecessary historic consumptive use analysis.
- Recognize the inchoate nature of municipal permits thereby allowing the notice of completion to be filed upon completion of the diversion works. The municipality would have to show that the amount of water requested in permit is tethered to its reasonably anticipated future needs (i.e. a cornerstone of the growing communities doctrine).

Discussion, In addition to what was discussed in section 2 above:

The Department recognizes we are not the only regulatory body and/or agency that governs municipalities. We are also aware that there are apparent contradictions in the laws/rules/policies of agencies. There is a lot here, so I am going to break it down into a few key points.

Plan: In addition the municipal memo rewrite plan above, the following topics will be added.

- Clearly differentiate procedures for changes from new permits.
 - Most of the issues discussed in the 2014 Municipal Memo are around existing municipal rights. The department will clearly identify what is appurtenant to permits and what isn't.
- Recognize that municipal water rights are fundamentally different from irrigation water rights.
 - This will be the fundamental point of the replacement guidance memo.
- Changing discharge methods
 - This topic is addressed in the September 14, 2012 memo titled "HB 52 (Effective 10/1/2011)". Questions or concerns on this topic can be directed to your local regional office.
- Service area as the place of use
 - ARM 36.12.1901 is very clear that all changes in place of use require a change authorization. The 2014 Municipal

Memo has guidance on this. This topic will be consolidated and expanded upon in the updated memo.

-Adverse Effect.

-As discussed above, this will be undated and clarified in the replacement memo.

-Notice of Completion guidance for Municipalities.

-The Department recognizes the unique challenges associated with the project completion requirements of MCA 85-2-312(2) on Municipalities. The Department will add a section that gives guidance and sets sidewalks on the project completion requirements for the municipal uses.